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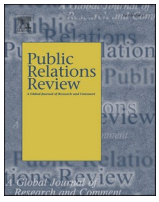

Different shades of green deception. Greenwashing's adverse effects on corporate image and credibility

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ABSTRACT

Climate change poses one of today's greatest challenges, compelling organizations to adopt sustainable practices, which are frequently communicated to bolster their image and credibility. However, some organizations tend to exaggerate their green commitment, resulting in a perceived disparity between their environmental claims and actions, which is commonly referred to as greenwashing. This study examines the impact of different levels of greenwashing on corporate image and credibility. Through a 4×2 between-subjects experiment, participants were exposed to a publishing company's promise to use 90 % recycled paper, followed by the revelation that the actual amount of recycled paper used was either 90 %, 86 %, 54 %, or 23 %. Additionally, the pre-image of the company was manipulated by portraying it as either a popular or an unpopular employer. Results indicate that even small discrepancies lead to a decrease in image perception and credibility, with motivated reasoning and expectation violation mediating these effects. However, these effects were not influenced by a positive or negative pre-image of the company. Overall, this research highlights the importance of honest and transparent communication of CSR activities.

Climate change is one of the most pressing challenges of our time, pushing organizations to adopt environmentally friendly and sustainable practices. In response to growing stakeholder and societal concerns, many organizations have embarked on initiatives to reduce their carbon footprint and demonstrate their commitment to environmental preservation (de Jong et al., 2020). These efforts are driven not only by ethical considerations, but also by the desire to enhance corporate reputation and gain competitive advantage in an increasingly environmentally conscious marketplace (Du et al., 2010; Smith & Langford, 2009). In the midst of these efforts, however, lies a pervasive problem known as greenwashing, in which organizations exaggerate or misrepresent their environmental commitments, creating a perceived gap between their claims and actual actions (de Freitas Netto et al., 2020; de Jong et al., 2020; Keilmann & Koch, 2023; Seele & Gatti, 2017; Zych et al., 2021).

Previous studies have highlighted the detrimental effects of greenwashing on various aspects of corporate perceptions and consumer behavior. When detected by stakeholders, greenwashing has been found to undermine organizational or brand trust, credibility, and reputation (e.g., Akturan, 2018; Albayrak et al., 2013; Javed, 2022; Ragas & Roberts, 2009; Schmuck et al., 2018). Despite these findings, there remains a gap in our understanding of how different levels of greenwashing influence these outcomes. In particular, it is still unclear whether even low levels of greenwashing lead to negative effects on corporate image and credibility. Moreover, the role of prior image toward the organization in moderating these effects has received limited attention. Do stakeholders view greenwashing more leniently if the organization is already highly likeable? Research on crisis communication indicates that stakeholders' pre-existing perceptions of an organization can significantly influence how they interpret and respond to its subsequent communications and actions (Coombs & Holladay, 2006; Lyon & Cameron, 2004; Turk et al., 2012). Specifically, individuals with a favorable prior image of an organization may be more forgiving or tolerant of minor instances of greenwashing, viewing them as inconsequential or unintentional. Conversely, stakeholders with a negative prior image may be more critical and skeptical of environmental claims, scrutinizing them more closely and reacting more negatively to perceived discrepancies between claims and actions. To address these research gaps, this study employs a 4×2 between-subjects experiment to investigate the impact of different levels of greenwashing as well as the pre-image of the organization on organizational image and credibility.

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1. Corporate social responsibility and greenwashing

Corporate social responsibility (CSR) has become increasingly important in modern business practices as stakeholders expect organizations to act in ways that benefit society and the environment (Colleoni, 2013; Moreno & Capriotti, 2009). Consequently, organizations have intensified their communication of CSR endeavors through diverse channels (Crane & Glozer, 2016; Dawkins, 2005). However, the complexity of CSR requires a clear definition. Based on Carroll (1999) as well as Sarkar and Searcy (2016) we define CSR as the voluntary contribution of organizations to sustainable development beyond their legal obligations.

To capitalize on the benefits of CSR activities, such as improved credibility and image, organizations must adeptly communicate these efforts to stakeholders (Du et al., 2010; Lin-Hi & Blumberg, 2018; Viererbl & Koch, 2022). As environmental awareness among stakeholders rises, sustainability becomes a vital organizational concern, prompting companies to highlight their green initiatives to reap the rewards of environmental responsibility (Gallicano, 2011; Ramus & Montiel, 2005; Siano et al., 2017; Zych et al., 2021). This trend has given rise to concepts such as "Green PR" and "Corporate Environmentalism" (Aronczyk & Espinoza, 2021).

Consequently, some organizations may exaggerate or misrepresent their green efforts to appear more eco-friendly than they actually are (de Freitas Netto et al., 2020; Gallicano, 2011). This phenomenon is commonly known as *greenwashing*. Greenwashing can be defined as the perception of a discrepancy between an organization's environmental protection claims and its actual practices (Keilmann & Koch, 2023). This definition focuses on two key aspects: first, a lack of alignment between an organization's sustainability promises and its actual engagement. This can occur through selective disclosure of certain information (Lyon & Maxwell, 2011) or through mere pretense of engagement, representing symbolic rather than substantive commitment (Guo et al., 2017; Walker & Wan, 2012). Consequently, an organization's green performance may appear more sustainable than it actually is (Freitas Netto et al., 2020; Lyon & Montgomery, 2015; Marquis et al., 2016; Zych et al., 2021).

Second, it involves the conscious perception of this discrepancy by stakeholders. Therefore, Seele and Gatti (2017) argue that greenwashing should be viewed as a "phenomenon in the eye of the beholder, depending on an external accusation" (p. 239). However, individuals might recognize greenwashing even without an external accusation. For example, if a company advertises its bottled water as being environmentally friendly because the bottles are made from 100 % recycled materials, but the water itself comes from a spring on a distant island and needs to be transported long distances, customers who are aware of the environmental impact of transportation may recognize the company's claims as greenwashing, even without an external accusation. Consequently, it is crucial that greenwashing be recognized as such, regardless of whether an external accusation is involved. All of this demonstrates that greenwashing is not an objective, concrete reality, but rather socially constructed (Lange & Washburn, 2012). Stakeholders may interpret cases differently, with some seeing certain actions as greenwashing and others not. Therefore, we define greenwashing as the perception of a discrepancy between an organization's environmental protection claims and its actual practices, emphasizing its subjective nature.

2. Effects of greenwashing

2.1. Effects of greenwashing on corporate image and credibility

When stakeholders uncover instances where organizations overstate or misrepresent their environmental efforts to appear more environmentally friendly than they truly are, it can lead to backfire effects and negatively impact stakeholders' perceptions of the organization (Einwiller et al., 2019; Koch & Viererbl, 2022; Rim et al., 2020; Torelli et al., 2020). Studies have shown that perceived greenwashing negatively influences a company's or a brand's credibility or trustworthiness (Chen & Chang, 2013; Keilmann & Koch, 2023; Lim et al., 2013; Javed, 2022) and reputation or image (Keilmann & Koch, 2023; Parguel et al., 2011). Few studies have specifically examined the impact of varying levels of discrepancy between an organization's environmental claims and its actual practices (de Jong et al., 2020; Keilmann & Koch, 2023). Small discrepancies, such as inaccuracies or oversights, may sometimes be overlooked or deemed insignificant by stakeholders. Conversely, significant inconsistencies, such as deliberate misrepresentation or failure to meet environmental commitments, are more likely to be recognized and can have a stronger impact on reputation and credibility (Keilmann & Koch, 2023). However, stakeholders' perceptions of whether a discrepancy is small or large are subjective and influenced by factors like environmental awareness and their prior image of the organization. Therefore, individual interpretations may play a crucial role in determining whether a discrepancy is perceived as greenwashing (de Jong et al., 2020).

When stakeholders detect a discrepancy between an organization's green claims and its actual practices, it remains uncertain whether this is perceived as greenwashing (Balluchi et al., 2020; Ioannou et al., 2023; Nyilasy et al., 2014; Seele & Gatti, 2017). This ambiguity arises as there are different shades of greenwashing, and not all discrepancies are equally severe or indicative of deliberate misrepresentation (de Jong et al., 2020). Some discrepancies may be perceived as minor oversights or mistakes rather than intentional greenwashing, indicating a wide and diverse spectrum of greenwashing. However, research conducted by Keilmann and Koch (2023) suggests that even small inconsistencies, often referred to as little white lies, between an organization's environmental claims and its actual engagement can negatively affect stakeholders' perceptions. Furthermore, the study suggests that larger discrepancies exacerbate the effects on perceptions of reputation and credibility. Drawing from these insights, we propose the following hypotheses:

Hypothesis 1. When there is a discrepancy between an organization's promised and actual levels of green engagement, both its a) image and b) credibility will be perceived more negatively compared to a control group with no such discrepancy.

Hypothesis 2. The negative impact of greenwashing on a) image and b) credibility will be more pronounced as the discrepancy between the promised and actual levels of green engagement increases.

2.2. Effects of the prior image on the perception of greenwashing

In analyzing the effect of the discrepancies between promised and actual levels of green engagement, the question arises whether a small discrepancy will be interpreted as greenwashing, resulting in negative effects on credibility and image. We argue that this interpretation depends on the organization's pre-existing image. Previous research in crisis communication suggests that the impact of allegations or crises on organizational perceptions is contingent upon its prior image. Coombs (2007, p. 166) refers to this as "prior relational reputation," which describes how well or poorly an organization has treated its stakeholders in other contexts. If an organization has a history of mistreating its stakeholders, its prior image is deemed unfavorable (Porritt, 2005). In such cases, the organization is seen as displaying a lack of consideration for its stakeholders across various domains, not just in the context of the crisis at hand.

If an organization has a positive prior image, stakeholders are more inclined to perceive the organization positively even in the face of a crisis or allegations (Coombs & Holladay, 2015; Lyon & Cameron, 2004; Turk et al., 2012). In such cases, stakeholders are more likely to overlook white lies, perceiving them as unintended errors that do not necessarily reflect the organization's true intentions. However, a positive pre-image

might not guarantee immunity from the negative effects of greenwashing. If the discrepancy between the promised and actual levels of green engagement is large enough, even an organization with a strong positive prior image may face repercussions. Therefore, we hypothesize that prior image plays a moderating role in the case of minor greenwashing:

Hypothesis 3. In the context of a positive prior image, small discrepancies between an organization's promised and actual levels of green engagement may not be construed as greenwashing, and thus may not have a detrimental effect on the organization's image and credibility. Conversely, for organizations with a negative prior image, even small discrepancies between an organization's promised and actual levels of green engagement may lead to declines in both a) image and b) credibility.

2.3. Violation of expectations and motivated reasoning as mechanisms in evaluating image and credibility

Finally, we are interested in exploring the different perceptions of minor and severe greenwashing. Specifically, we aim to understand the distinct mechanisms that contribute to negative evaluations of an organization's image and credibility in each case. We propose that there may be two important mechanisms at play.

The first mechanism is expectancy violation, which occurs when individuals form expectations about an organization based on its past behavior (Burgoon, 1993; Jussim et al., 1987). When the organization's current actions contradict these expectations, it triggers a reassessment that can be either positive or negative (Burgoon, 1993; Burgoon & Le Poire, 1993). This idea is applicable to perceptions of an organization's green promises, where expectations are shaped by its professed engagement in environmentally responsible practices (Cho et al., 2021; Rim et al., 2020). However, when consumers perceive these promises to be unfulfilled, a violation of expectations occurs. Such negative violations of public expectations result in unfavorable evaluations of the organization (Afifi & Burgoon, 2000; Burgoon & Hale, 1988), which in turn reduce perceptions of its credibility and image (Cho et al., 2021; Park et al., 2021; Rim et al., 2020). Therefore, we hypothesize a mediation effect.

Hypothesis 4. A large discrepancy between an organization's promised and actual levels of green engagement will result in a greater violation of expectations than a small discrepancy, resulting in a more adverse effect on the organization's a) image and b) credibility.

As a second mechanism, we assume motivated reasoning (Donovan & Priester, 2017; 2020). When individuals encounter information that conflicts with pre-existing beliefs, they may experience cognitive dissonance, which is a state of mental discomfort caused by holding conflicting beliefs (Festinger, 1957). To alleviate this discomfort, people engage in motivated reasoning, selectively interpreting or evaluating information to align with their pre-existing beliefs and values (Donovan & Priester, 2017). This biased interpretation of information can impede individuals' ability to adjust their beliefs based on new evidence. Motivated reasoning can influence how consumers perceive greenwashing: they may assess discrepancies between an organization's stated and actual environmental efforts in a manner that aligns with their pre-existing beliefs about the organization (Sohn & Lariscy, 2015). For instance, they may overlook evidence of unsustainable practices or rationalize such behavior. Kleffel and Muck (2023) suggest that environmentally conscious investors may disregard the risk of greenwashing or view green labels as a chance to resolve cognitive dissonance. Similarly, Atkinson and Kim (2015) found that participants often used rationalizations to reconcile skepticism with green claims and discrepancies between green intentions and non-green purchasing behavior. We suggest that this phenomenon is more likely to manifest when an organization engages in minor greenwashing, as consumers may perceive these lapses as less significant and be more inclined to justify or overlook them. Thus, we hypothesize:

Hypothesis 5. A small discrepancy between an organization's promised and actual level of green engagement will result in a more pronounced motivated reasoning among stakeholders than a large discrepancy, resulting in a less adverse effect on the organization's a) image and b) credibility.

Our conceptual model for the mediation hypotheses is shown in Fig. 1. The figure illustrates the complementary nature of these concepts and their simultaneous occurrence. In the presence of a discrepancy between an organization's environmental claims and practices, stakeholders may engage in motivated reasoning, aligning interpretations with their beliefs, depending on the size of the discrepancy. At the same time, discrepancies lead to expectancy violations, with larger discrepancies leading to more pronounced violations as they deviate further from stakeholders' expectations.

3. Method

3.1. Sample

We recruited 256 participants from Germany through social media platforms such as Instagram, WhatsApp, and Vinted. Of the participants, 80 % identified as female, 19 % as male, and 1 % as other/nonbinary. The average age was 33.50 ($SD = 12.46$) years. Taking part in the study was completely voluntary and participants did not receive payment for compensation for their participation. They could end the survey at any time.

3.2. Procedure and stimuli

In our experiment, we used a 4 (level of discrepancy: no, small, medium, or large) x 2 (prior image: positive or negative) between-subjects design. Participants were shown a fictitious newspaper article describing a regional publisher's use of 90 % recycled paper, with variations in the company's popularity as an employer (Factor 1, Figures A1 & A2). Subsequently, participants viewed another fictitious article detailing the actual amount of recycled paper used by the company, resulting in one of four discrepancy conditions: no discrepancy (90 % recycled), small (90 % vs. 86 %), medium (90 % vs. 54 %), or large (90 % vs. 23 %), reflecting varying degrees of greenwashing (Factor 2, Figures A3 & A4). Participants were randomly assigned to one of the eight conditions.

3.3. Measures

We measured the *corporate image* using a seven-point semantic differential scale of six adjective pairs in response to the item "I believe that ELSE publishing is … " (Koch et al., 2019). Three items measured the cognitive image dimension (Crites et al., 1994; Eagly et al., 1994): "incompetent–competent," "unprofessional–professional," and "not capable–capable." The other three referred to the affective image dimension: "unfriendly–friendly," "not likeable–likeable," and "not genuine–genuine." We created an index of the six items ($M = 3.97$, $SD = 1.43$, $\alpha = .95$).

We measured the *credibility of the company* using a seven-point scale (ranging from *strongly disagree* to *strongly agree;* Newell & Goldsmith, 2001). The scale contained the following four items: "I believe the publisher," "I trust the publisher," "The publisher is honest", and "The publisher provides truthful information" Again, the items were combined into an index ($M = 3.22$, $SD = 1.61$, $\alpha = .97$).

To measure whether the *participants' expectations were violated*, we used the following three items (seven-point scale ranging from *strongly disagree* to *strongly agree*): "I would have expected a different behavior from the company," "The company didn't behave how I would have

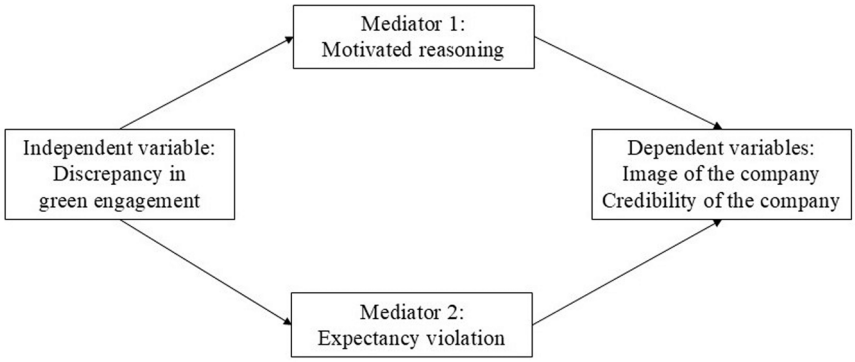

Fig. 1. Mediation model.

thought it would," and "My expectations regarding the company were violated." We combined these items into an index ($M = 4.60$, $SD = 2.03$, $\alpha = .95$).

Finally, to assess participants' *motivated reasoning*, we developed four items (seven-point scale ranging from *strongly disagree* to *strongly agree*): "The publisher has acted with the right intentions", "The publisher tried to do something good", "The publisher basically represents the right values", "The publisher has done at least something compared to other companies to protect the environment." The items were combined into an index ($M = 5.04$, $SD = 1.42$, $\alpha = .91$).

3.4. Treatment check

Participants in the four groups correctly answered what percentage of recycled paper the publisher uses (96 % in 23 % condition, 97 % in 54 % condition, 99 % in 86 % condition, and 97 % in 90 % condition), $\chi 2(9) = 713.29$, $p < .001$, $n = 256$. We also checked the participants' ability to notice and correctly answer questions about the ranking information provided in the first stimulus (and therefore, the pre-image of the company; 81 % in the positive ranking condition vs. 71 % in the negative ranking condition), $\chi 2(2) = 158.72$, $p < .001$, $n = 256$. Hence, the manipulation was successful.

4. Results

We structured the results section into two parts. First, we examine the outcomes concerning the company's image (H1a-H3a) and credibility (H1b-H3b). Subsequently, we present the results regarding our mediation models (H4 and H5).

4.1. Effects on the company's image and credibility

To test the effects on corporate image (H1a, H2a, and H3a), we conducted a two-factorial ANOVA. The first factor was the discrepancy between communicated (90 %) and actual green engagement (90 %, 86 %, 54 %, or 23 %), while the second factor was the company's pre-image (positive or negative). The ANOVA revealed a significant main effect of discrepancy, $F(3, 248) = 37.65$, $p < .001$, $\eta^2 = .31$. Post-hoc tests demonstrate significant differences ($p < .05$) between the control group without a discrepancy and all three groups with a discrepancy – participants of these three groups rated the image of the company more negatively (M and SD in Table 1). This finding confirms H1a, suggesting that individuals tend to rate the company's image more negatively when there is a discrepancy between the company's promised and actual green engagement compared to when there is no discrepancy. Moreover, the means indicate that the perceived image decreases with the magnitude of the discrepancy. Post-hoc tests reveal significant differences between the small discrepancy group and both the medium and large discrepancy groups, with no significant difference between the latter two. These results provide partial support for H2a, suggesting that the negative impact of greenwashing on image intensifies as the discrepancy between the promised and actual levels of green engagement increases. Additionally, the ANOVA exhibited a significant main effect of pre-image, $F(1, 248) = 89.79$, $p < .001$, $\eta^2 = .27$, indicating the successful manipulation of pre-image (positive pre-image: $M = 4.63$, $SD = 1.32$; negative pre-image: $M = 3.30$, $SD = 1.22$). However, there was no significant interaction effect between discrepancy and pre-image, $F(3, 248) = 0.33$, $p = .803$, $\eta^2 = .00$, leading to the rejection of H3a (Fig. 2). Thus, the pre-image did not influence how the discrepancies, and consequently, the greenwashing, were perceived.

Table 1
Means and standard deviations of image and credibility for all experimental groups.

	Image		*Credibility*	
Discrepancy	*M*	*SD*	*M*	*SD*
No discrepancy	5.00	1.24	4.90	1.32
Small	4.24	1.31	3.45	1.32
Medium	3.34	1.23	2.33	0.96
Large	3.16	1.15	1.99	0.90

Note. $N = 256$

In the subsequent analysis, we examined our hypotheses concerning the effects on corporate credibility (H1b, H2b, and H3b). Once again, we conducted a two-factorial ANOVA, with the discrepancy between communicated (90 %) and actual green engagement (90 %, 86 %, 54 %, or 23 %) as the first factor and the company's pre-image (positive or negative) as the second factor. The ANOVA yielded a significant main effect of discrepancy, $F(3, 248) = 87.73$, $p < .001$, $\eta^2 = .52$. Post-hoc tests revealed significant differences ($p < .05$) across all groups. The distribution of the means suggests that individuals perceive the company's credibility more negatively when there is a discrepancy between the promised and actual green engagement compared to when there is no discrepancy (M and SD in Table 1). This finding confirms H1b. Additionally, the means indicate that credibility diminishes as the magnitude of the discrepancy increases, thus supporting H2b, which suggests that the adverse impact of greenwashing on credibility amplifies with the widening gap between the promised and actual levels of green engagement. Furthermore, the ANOVA revealed a significant main effect of pre-image, $F(1, 248) = 30.72$, $p < .001$, $\eta^2 = .11$, suggesting that a negative pre-image has a detrimental impact on credibility assessments (positive pre-image: $M = 3.64$, $SD = 1.61$; negative pre-image: $M = 2.79$, $SD = 1.50$). However, once more, there was no significant interaction effect between discrepancy and pre-image on credibility, $F(3, 248) = 0.60$, $p = .617$, $\eta^2 = .01$, leading to the rejection of H3b (Fig. 3). Thus, the pre-image did not influence how discrepancies affect corporate credibility.

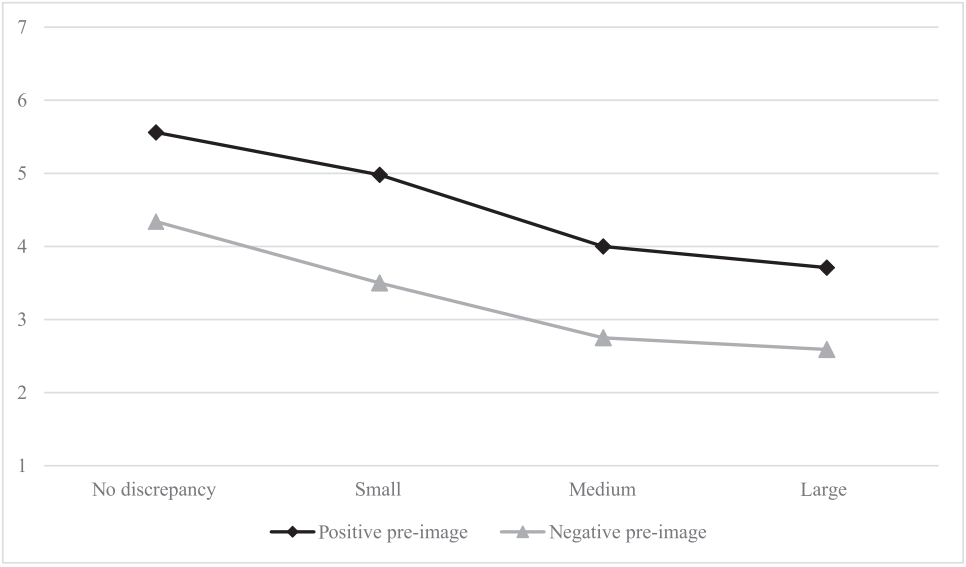

Fig. 2. Effects of discrepancy and pre-image on the corporate image.

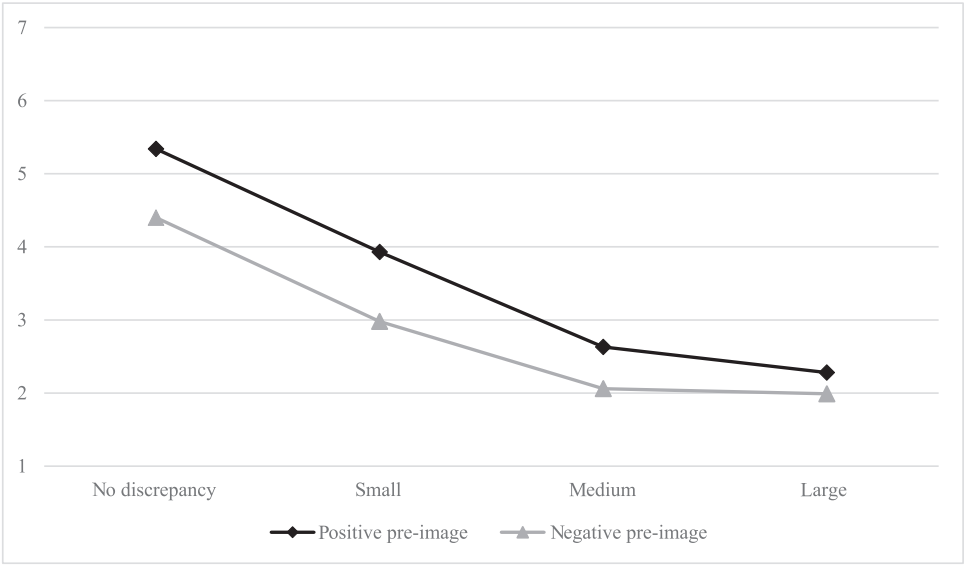

Fig. 3. Effects of discrepancy and pre-image on the corporate credibility.

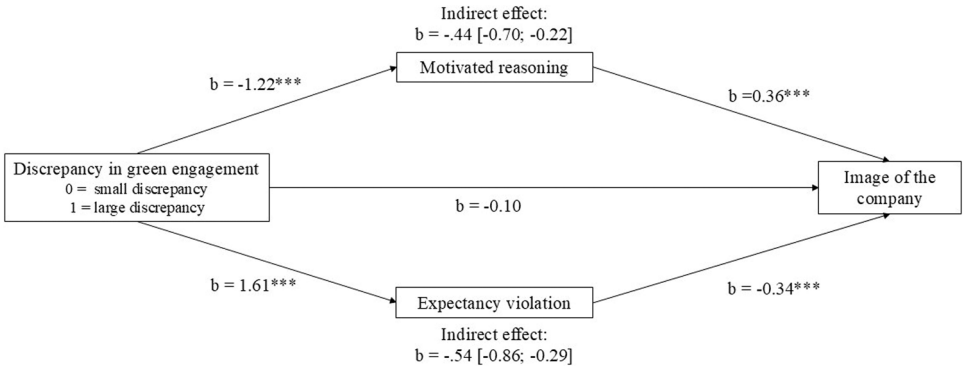

Fig. 4. Results of the mediation analysis (image of the company)
Note. $n = 125$. PROCESS (Model 4), 5,000 Bootstrap-Samples. Values show unstandardized path coefficients. Total effect: -1.08 [-1.53;-0.64]. *** = $p < .001$.

4.2. Mediation analyses

To examine H4 and H5, we conducted mediation analyses using PROCESS for SPSS (Hayes, 2022). We tested effects of the small discrepancy (86 %) against the large discrepancy (23 %) to see if the mediation effect via violation of expectations is more pronounced when the level of discrepancy increases (H4) and to see if stakeholders will activate motivated reasoning in the case of slight greenwashing compared to severe greenwashing (H5). Therefore, the violation of expectations and motivated reasoning served as mediators. We performed two mediation analyses for each dependent variable (image and credibility).

Regarding the company's image, the results of our first model (Fig. 4) demonstrate that, compared to a small discrepancy, a large discrepancy significantly increases violation of expectations ($b = 1.61$, $p < .001$), which, in turn, harms the company's image ($b = -0.34$, $p < .001$). The results also show a significant negative effect of a large discrepancy compared to a small discrepancy on motivated reasoning ($b = -1.22$, $p < .001$). Motivated reasoning, in turn, has a positive impact on the company's image ($b = 0.36$, $p < .001$). Furthermore, the analysis shows a significant indirect effect through violation of expectations ($b = -.54$, *BootSE* =.15, 95 % *BCBCI* [−0.86, −.29]) and motivated reasoning ($b = -.44$, *BootSE* =.12, 95 % *BCBCI* [−0.70, −0.22]) on company's image. Therefore, we can support H4a and H5a.

Regarding the company's credibility, the results of our second model (Fig. 5) demonstrate that compared to a small discrepancy, a large discrepancy significantly increases violation of expectations ($b = 1.61$, $p < .001$), which, in turn, harms the company's credibility ($b = -0.36$, $p < .001$). The results also show a significant negative effect of a large discrepancy compared to a small discrepancy on motivated reasoning ($b = -1.22$, $p < .001$). Motivated reasoning, in turn, has a positive impact on the company's credibility ($b = 0.23$, $p < .01$). Furthermore, the analysis also shows a direct negative effect of discrepancy on credibility ($b = -0.61$, $p < .05$). Additionally, the analyses shows a significant indirect effect through violation of expectations ($b = -.58$, *BootSE* =.15, 95 % *BCBCI* [−0.90, −.31]) and motivated rezoning ($b = -.28$, *BootSE* =.11, 95 % *BCBCI* [−0.50, −0.09]) on company's credibility. Hence, there is support for H4b and H5b.

5. Discussion

5.1. Interpretation of key findings

As environmental issues have gained more attention, organizations use green marketing to appear environmentally friendly, but some engage in greenwashing by making false environmental claims (Nyilasy et al., 2014; Seele & Gatti, 2017). Research supports the idea that perceived greenwashing negatively influences corporate credibility and trustworthiness (Chen & Chang, 2013; Keilmann & Koch, 2023; Lim et al., 2013; Javed, 2022) as well as corporate image and reputation (Keilmann & Koch, 2023; Parguel et al., 2011). However, it is unclear whether even small discrepancies between an organization's environmental claims and its actual practices, or what could be considered as little white lies, can lead to such a perception (de Jong et al., 2020; Keilmann & Koch, 2023). This study investigates the impact of different levels of greenwashing on a company's image and credibility, as well as the moderating effect of the company's previous image. To this end, we showed participants a publishing company's claim to use 90 % recycled paper, followed by the actual amount used (90 %, 86 %, 54 %, or 23 %), and also manipulated the pre-image of the company (positive vs. negative).

The study's findings indicate that both small and large discrepancies between an organization's environmental claims and engagement lead to a decrease in image and credibility, supporting previous research (de Jong et al., 2020; Keilmann & Koch, 2023). Furthermore, the results suggest that the negative effects on image and credibility become more pronounced as the level of discrepancy between environmental claims and engagement increases. Interestingly, even small discrepancies between a company's environmental claims and engagement can have a significant negative impact on its image and credibility. Nevertheless, it remains unclear how significant the discrepancy must be for stakeholders to perceive it as greenwashing. The current data does not allow us to pinpoint the threshold at which minor inconsistencies, particularly those not intended to mislead, cross into greenwashing territory. This is an important question that warrants further investigation. Future studies could explore different levels of minor gaps between environmental performance and communication to determine when stakeholders begin to perceive these inconsistencies as deliberate deception. Testing these thresholds will contribute to a clearer understanding of the boundaries of greenwashing, providing valuable insights for both academia and industry.

Altogether, the study highlights the significance of honest and transparent communication about a company's environmental efforts and practices to maintain a positive image and credibility. Companies run a significant risk when they exaggerate their green engagement or use half-truths to appear more environmentally conscious (de Jong et al., 2020). Such actions can have negative consequences and backfire (Einwiller et al., 2019; Koch & Viererbl, 2022).

Moreover, the study revealed how small and large discrepancies differ regarding their processing. The study confirmed our assumption that motivated reasoning and expectancy violation play a role in mediating the impact of greenwashing on a company's image and credibility (Burgoon, 1993; Burgoon & Le Poire, 1993; Donovan & Priester, 2017, 2020; Jussim et al., 1987). Specifically, we found that more severe forms of greenwashing result in a greater violation of expectations and a more negative evaluation of image and credibility which is in line with previous results regarding evaluations of an organization (Affi & Burgoon, 2000; Burgoon & Hale, 1988). With respect to

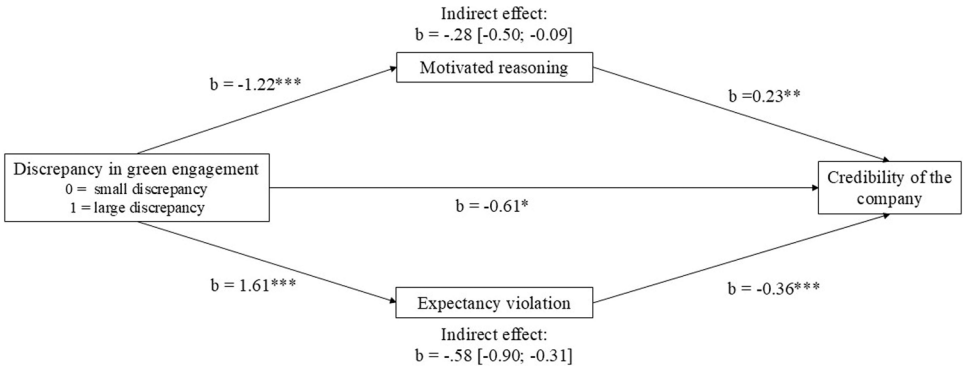

Fig. 5. Results of the mediation analysis (credibility of the company)
Note. $n = 125$. PROCESS (Model 4), 5,000 Bootstrap-Samples. Values show unstandardized path coefficients. Total effect: -1.48 [-1.88;-1.05]. *** = p < .001.

motivated reasoning, which occurs when individuals selectively interpret information to support their existing beliefs, it is more likely to occur in response to minor greenwashing. This is because stakeholders may perceive these lapses as less significant and be more inclined to overlook or rationalize them (Atkinson & Kim, 2015; Kleffel & Muck, 2023). Conversely, in the case of severe greenwashing, stakeholders may not be motivated to justify the company's behavior. Further research should explore these phenomena in greater depth.

Finally, the experiment revealed that previous positive or negative perceptions of the company did not moderate the effects. Contrary to our assumption, based on crisis communication research, that a good prior image can lead stakeholders to perceive the organization positively even in the face of a crisis or allegations (Coombs & Holladay, 2015; Lyon & Cameron, 2004; Turk et al., 2012), stakeholders did not overlook small discrepancies, even when they had a positive image of the company. We considered the possibility that two conflicting effects might have been at play. On the one hand, we assumed that stakeholders with a positive prior image would be more inclined to overlook small discrepancies. On the other hand, as some research suggests, a positive prior image can raise expectations to a level where even small discrepancies may result in stronger negative reactions due to violated expectations (Rim et al., 2020). In other words, while a positive image can help to buffer the negative effects of small discrepancies, it may also raise expectations that backfire (Einwiller et al., 2019; Koch & Viererbl, 2022). However, when we tested the moderating effect of prior image on the relationship between discrepancy size (small vs. large) and the mediating mechanisms of expectancy violation and motivated reasoning, the analysis did not reveal any significant moderation effects, neither for motivated reasoning, $F(1121) = 0.00$, $p = 0.96$, $\eta^2 = 0.00$, nor for expectancy violation, $F(1121) = 1.68$, $p = 0.20$, $\eta^2 = 0.01$. These findings suggest that, at least in the context of our study, the impact of discrepancy size on expectancy violation and motivated reasoning is independent of prior image.

5.2. Limitations and future research

Several limitations of this study warrant careful consideration. First, the stimuli used may not fully reflect the complexity of greenwashing in real-world scenarios (Balluchi et al., 2020; Ioannou et al., 2023). Although this study used a simplified version of greenwashing to differentiate various levels, the detection of greenwashing in practical settings may be more challenging, as it often requires specific allegations (Seele & Gatti, 2017) and is influenced by cultural and/or regional factors (Munshi & Kurian, 2005). Additionally, the selection of specific percentage discrepancies was somewhat arbitrary, highlighting the need for a more systematic approach in future research. Furthermore, even when we used a relatively low harm scenario (amount of recycled paper used by the company), we found some profound effects. Future research should explore what this means for situations where the stakes are higher, and therefore examine scenarios that are more harmful to the environment (e.g., pollution, carbon emissions, or hazardous waste management).

Second, the use of convenience sampling may limit the generalizability of the findings. Convenience sampling relies on the accessibility and availability of participants, often resulting in a non-random selection that may not adequately represent the broader population, such as the German population in this case. As such, the sample lacks diversity, is relatively young, and may not accurately reflect the characteristics of the target population, including potential age-related differences in perceptions of greenwashing, as younger individuals may be more environmentally conscious than older counterparts. Consequently, caution is warranted in interpreting the results of this study, as they may not be applicable beyond populations easily accessible or willing to participate. Future research should consider using more robust sampling methods to ensure the validity of the findings.

Third, we manipulated the company's pre-image based solely on its popularity as an employer. Since our second manipulation focused on CSR-related aspects, specifically greenwashing, it was imperative that our other manipulation remain independent to avoid confounding effects. Combining both manipulations could have resulted in intertwined variables, which would have compromised the validity of our study. However, future research could explore the impact of manipulating CSR-related or sustainability aspects alongside greenwashing allegations. Such studies could reveal whether companies that engage in significant green behavior but face greenwashing allegations are perceived even more negatively, due to heightened expectations (Koch et al., 2024).

Fourth, other moderating factors may be at play. Factors such as individual environmental awareness, personal values, or organizational involvement may affect how discrepancies are interpreted. Future research should explore these potential moderators to gain a more nuanced understanding of the conditions under which stakeholders are more or less likely to engage in expectancy violation or motivated reasoning when evaluating greenwashing.

Fifth, we manipulated prior corporate image as employer popularity rather than as a specific CSR-related reputation or a broader corporate image. Prior perceptions tied closely to a company's social responsibility or environmental track record could more directly influence how discrepancies between claimed and actual CSR efforts are perceived. Consequently, using a CSR-focused prior image might yield stronger moderating effects on responses to greenwashing. Future research should consider examining these alternative conceptualizations of prior image to provide a more comprehensive understanding of its role in moderating reactions to varying levels of greenwashing.

5.3. Conclusion

The findings of this study highlight the importance of transparency and accuracy in organizational communication practices (Christensen & Cheney, 2015; Rawlins, 2008). Even small discrepancies between environmental claims and actual practices can lead to significant negative consequences for an organization's image and credibility (Keilmann and Koch, 2023). Therefore, it is crucial for organizations to prioritize honest and transparent communication regarding their environmental efforts and practices in order to maintain a positive image and credibility. As stakeholders become more discerning and vigilant in evaluating environmental claims, a higher standard of authenticity and accountability is required in corporate communication strategies. By prioritizing accuracy and truthfulness in their environmental communications, organizations can cultivate trust and goodwill among stakeholders, enhancing their long-term sustainability and success in the marketplace.

The findings of this study also underscore the ethical responsibilities organizations have in their environmental communications. The spectrum of greenwashing can range from minor inaccuracies to deliberate misrepresentation, and each has the potential for misuse. Even when greenwashing is unintentional or relatively minor, it can erode stakeholder trust and damage an organization's reputation. As this study shows, stakeholders do not easily overlook small discrepancies, suggesting that even perceived minor lapses in authenticity can lead to significant reputational harm. This reinforces the need for organizations to be particularly vigilant in ensuring that all claims about environmental practices are substantiated and align closely with actual performance.

To avoid the ethical pitfalls of greenwashing, organizations must approach sustainability communications as part of their core ethical obligations rather than as a marketing tool. Developing clear guidelines and robust verification mechanisms to ensure that environmental claims are backed by real, measurable actions is essential. This can include third-party audits, increased transparency around sustainability metrics, and proactive stakeholder engagement to hold the organization accountable. The temptation to overstate environmental achievements to appeal to eco-conscious consumers can be strong, especially in

competitive markets. However, as our findings indicate, stakeholders are increasingly critical and knowledgeable about these issues, and the consequences of being perceived as dishonest can be severe.

Declaration of Competing Interest

We declare that we have no financial or personal relationships that could potentially bias the research reported in this manuscript. We have no affiliations with organizations or entities that have a direct or indirect interest in the subject matter discussed in this study. We confirm that the study was conducted with the highest level of integrity and adherence to ethical guidelines. The research findings and conclusions presented in this manuscript are solely based on the data collected and analyzed in a transparent and unbiased manner. We would like to assure the editors and reviewers of PR Review that there are no undisclosed conflicts of interest that could compromise the integrity of our research or the credibility of the manuscript.

Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at doi:10.1016/j.pubrev.2024.102521.

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